LA-UR-21-29252
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Title: The Global Nonproliferation Regime: The NPT and Beyond

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Intended for: Internal seminar

Issued: 2021-09-20

Los Alamos
NATIONAL LABORATORY

The Global Nonproliferation Regime: The NPT and Beyond

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October 2021

Introduction

- In the aftermath of WWII, the fear of nuclear war prompted the international community to confront the issue of nuclear proliferation
- The global nonproliferation regime that exists today is comprised of a matrix of multilateral treaties, political commitments, and unilateral measures designed to limit the spread of nuclear weapons
- It has evolved considerably since the dawn of the nuclear age
- This presentation covers the origins of the Nuclear Non-Proliferation Treaty (NPT), an introduction to International Atomic Energy Agency (IAEA) safeguards, a discussion of contemporary challenges and opportunities in the field, and an overview of the broader nonproliferation regime beyond the NPT

Origins of the NPT

Introduction

- The NPT is regarded as the cornerstone of the global nonproliferation regime
  - It has become an essential tool to combat nuclear proliferation and contributes to the security of all nations
- 191 States have joined the treaty, making it the most widely adhered to nuclear agreement in history
  - India, Pakistan, and Israel have not joined the NPT
  - North Korea announced its withdrawal from the NPT in 2003
- Without the NPT and the confidence provided by the IAEA safeguards system, the widespread use of nuclear energy for the benefit of mankind would not have been possible
- It also provides the foundation for making progress on disarmament

The Acheson-Lilienthal Report & Baruch Plan

- In January 1946, U.S. Secretary of State James Byrnes created a committee to provide policy recommendations on international control of atomic energy
  - The committee was led by Under Secretary Dean Acheson and included a board of consultants chaired by former head of the Tennessee Valley Authority David Lilienthal
  - The outcome of the study came to be known as the Acheson-Lilienthal Report
- In June 1946, U.S. representative to the United Nations Atomic Energy Commission (UNAEC) Bernard Baruch unveiled a proposal to the UNAEC along the lines of the Acheson-Lilienthal Report
  - The “Baruch Plan” called for the creation of an international authority entrusted with all phases of the development and use of atomic energy, starting with the raw materials
  - The international authority would have responsibilities to own, control, inspect, and license nuclear-related activities
  - The plan was rejected by the Soviet Union

Meeting of the United Nations Atomic Energy Commission | 14 June 1946

Atoms for Peace

- On December 8, 1953, President Dwight Eisenhower delivered his “Atoms for Peace” speech at the UN General Assembly
- In it, he proposed the creation of an organization to promote the peaceful use of nuclear energy and to ensure that nuclear energy would not serve any military purpose
- The speech served as the genesis of the IAEA

IAEA Established

- The IAEA was created by Statute, which entered into force in July 1957
  - The ideas President Eisenhower expressed in his Atoms for Peace speech helped shape the IAEA's Statute
- The IAEA is an independent intergovernmental organization headquartered in Vienna, Austria
- The objectives of the IAEA's dual mission—to promote and control the atom—are defined in Article II of its Statute
  - "The Agency shall seek to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world. It shall ensure, so far as it is able, that assistance provided by it or at its request or under its supervision or control is not used in such a way as to further any military purpose."

The Irish Resolution

- In 1961, the UN General Assembly unanimously adopted the Irish Resolution, which declared “that an increase in the number of States possessing nuclear weapons is growing more imminent and threatens to extend and intensify the arms race and to increase the difficulties of avoiding war”
- It called for an international agreement containing provisions
  - Prohibiting nuclear weapon States from relinquishing control of their nuclear weapons and from transmitting information necessary for their manufacture to non-possessors
  - Prohibiting States not possessing nuclear weapons from manufacturing or otherwise acquiring control of such weapons
- The negotiations that followed resulted in the NPT
  - The United States and the Soviet Union were the lead drafters

The NPT Enters into Force

- The NPT opened for signature in 1968 and entered into force in 1970
- Articles I and II of the NPT track closely with the language of the Irish Resolution
  - With complementary provisions prohibiting nuclear weapon States from transferring nuclear weapons to any recipient (Article I) and non-nuclear weapon States from receiving or manufacturing nuclear weapons (Article II)
- Article III obliges each non-nuclear weapon State party to accept safeguards on its peaceful nuclear activities pursuant to an agreement concluded with the IAEA
- Article IV provides for the rights of all parties to the peaceful uses of nuclear energy
- Article VI requires all parties to pursue negotiations in good faith on effective measures relating to nuclear disarmament
- Nonproliferation, the peaceful uses of nuclear energy, and disarmament are often referred to as the “three pillars” of the NPT

Structure

- The NPT distinguishes between nuclear weapon States (NWSs) and non-nuclear weapon States (NNWSs)
- Article IX of the NPT defines a NWS as one that manufactured and exploded a nuclear weapon or other nuclear explosive device prior to January 1, 1967
  - This includes the United States, Russia, the United Kingdom, France, and China
  - This group also comprises the permanent five members of the UN Security Council and are often referred to as the “P5”
- Outside of those five States, the only option available to any other State wishing to join the NPT is as a NNWS

Review & Duration

- Under Article VIII, the treaty is subject to reviews every five years “with a view to assuring that the purposes of the Preamble and the provisions of the Treaty are being realized”
  - These are referred to as the NPT Review Conferences (RevCons)
- Under Article X, “twenty-five years after the entry into force of the Treaty, a conference shall be convened to decide whether the Treaty shall continue in force indefinitely, or shall be extended for an additional fixed period or periods”
  - The NPT was extended indefinitely at the 1995 Review and Extension Conference
- In 1995, States parties also decided to strengthen the review process and to convene 10-day Preparatory Committee (PrepCom) meetings in each of the three years preceding a RevCon

Historical Context

16 July 1945 | The U.S. carried out the first nuclear test by any nation

6 August 1945 | The U.S. dropped Little Boy on Hiroshima

14 May 1955 | Warsaw Pact formed

8 December 1953 | Eisenhower's Atoms for Peace speech

13 February 1960 | France carried out its first nuclear test

21 June 1961 | The Antarctic Treaty entered into force

4 December 1961 | UNGA adopted the Irish Resolution

Oct/Nov 1962 | Cuban Missile Crisis

18 May 1972 | The Seabed Treaty entered into force

26 May 1972 | SALT I resulted in the Interim Agreement on offensive arms and ABM Treaty

5 March 1970 | The NPT entered into force

1940 | 1950 | 1960 | 1970 | 1980

14 June 1946 | Baruch Plan presented to the UNAEC

4 April 1949 | NATO alliance formed

29 August 1949 | The Soviet Union carried out its first nuclear test

3 October 1952 | The UK carried out its first nuclear test

29 July 1957 | IAEA established

10 October 1963 | The LTBT entered into force

16 October 1964 | China carried out its first nuclear test

10 October 1967 | The Outer Space Treaty entered into force

22 April 1968 | The Treaty of Tlatelolco entered into force

18 May 1974 | India carried out its first nuclear test

18 June 1979 | The U.S. and Soviet Union signed the SALT II Treaty

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IAEA Safeguards

Introduction

- Safeguards are a set of technical measures that allow the IAEA to independently verify a State's legal commitment not to divert nuclear material from peaceful nuclear activities to nuclear weapons or other nuclear explosive devices
- The IAEA Statute authorizes the IAEA to establish and administer safeguards
- States accept the application of such measures through the conclusion of safeguards agreements with the IAEA
- The vast majority of safeguards agreements are those that have been concluded by the IAEA with non-nuclear weapon States party to the NPT

Safeguards Agreements

- The first safeguards agreements were limited in scope and came to be known as “item-specific” safeguards agreements
- The NPT requires NNWSs to accept safeguards on *all* source or special fissionable material, so following its entry into force, a new type of safeguards agreement was developed
  - These are called “comprehensive” safeguards agreements (CSAs)
- The discovery of clandestine nuclear activities in Iraq in the 1990s highlighted the the need to strengthen safeguards implementation
- The Additional Protocol (AP) was designed to provide for additional measures to strengthen the IAEA’s ability to detect undeclared nuclear activities in a State

Safeguards Implementation

- IAEA safeguards implementation includes four fundamental processes
  - The collection and evaluation of information
  - The development of a safeguards approach for a State
  - The planning, conduct, and evaluation of safeguards activities
  - The drawing of safeguards conclusions

Key IAEA Safeguards Figures in 2020

- 184 States with safeguards agreements in force, of which 136 States had Additional Protocols in force
- 221,432 significant quantities of nuclear material under safeguards
- 1,321 nuclear facilities and locations outside facilities under safeguards
- Conducted 2,858 in-field verifications
- Verified 23,600 seals applied to nuclear material, facility critical equipment, or IAEA safeguards equipment at nuclear facilities
- Collected 460 environmental samples and 489 nuclear material samples
- Acquired 1,264 commercial satellite images
- Remotely monitored 142 facilities
- Utilized 1,038 nondestructive assay systems for measuring nuclear material
- Maintained 1,530 surveillance cameras at nuclear facilities
- €145 million regular budget
- 875 staff from 95 countries

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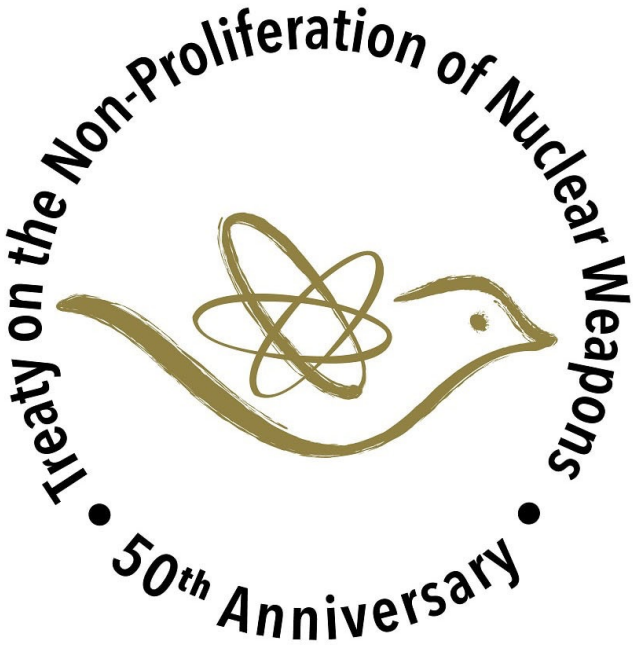
Contemporary Challenges & Opportunities

Introduction

- In 2020, the international community celebrated the 50th anniversary of the NPT
- The success of NPT was not a foregone conclusion and its future success is not guaranteed
- It took enormous effort to negotiate the NPT, achieve its near universality and indefinite extension, and build up the broader nuclear nonproliferation regime in the face of significant challenges
- It will take continued commitment by all States parties to ensure it remains effective and able to adapt to new challenges and opportunities



The 2020 NPT RevCon

- The 2020 NPT RevCon was postponed due to the COVID-19 pandemic and is currently scheduled to happen in early 2022
- The success of a RevCon is widely judged by whether or not it produces a comprehensive consensus final document that reviews the operation of the treaty and sets forth recommendations for follow-on actions
  - The 1975, 1985, 2000, and 2010 RevCons all resulted in such a document
  - At the 1995 Review and Extension Conference, the parties agreed on a package of decisions
- Issues to watch that could impact the success of the upcoming RevCon include
  - The status of arms control discussions
  - The fate of the Joint Comprehensive Plan of Action (JCPOA)
  - The impact of entry into force of the Treaty on the Prohibition of Nuclear Weapons (TPNW)

Disarmament Discourse

- Many NPT parties would like to see more rapid progress on disarmament and are concerned about NWS nuclear and missile modernization programs
- In the past, the P5 have been able work together effectively to highlight progress on disarmament
- Recent steps on this front include the extension of New START, reaffirmation by the United States and Russia of the statement that “a nuclear war cannot be won and must never be fought,” and launch of a new U.S.-Russia Strategic Stability Dialogue
- The impact of TPNW entry into force remains to be seen
- Other disarmament efforts include the U.S.-initiated Creating the Environment for Nuclear Disarmament (CEND) dialogue and the Stockholm Initiative’s 22 Stepping Stones proposal

U.S. Deputy Secretary of State Wendy Sherman and Russian Deputy Foreign Minister Sergey Ryabkov at the kickoff to the bilateral Strategic Stability Dialogue | Geneva | 28 July 2021

IAEA Safeguards

- The IAEA safeguards regime is challenged today by
  - Dealing with the hard cases of Iran and North Korea
  - Achieving universal adoption of the Additional Protocol
  - Preventing the build up of latent nuclear weapon capabilities from within the NPT followed by short-notice withdrawal
  - Keeping pace with new facility types and emerging technologies
  - Meeting growing demands and expectations for safeguards with a budget that is essentially flat

The COVID-19 Pandemic

- The IAEA has a global mission, and it was clear from the outset of the COVID-19 pandemic that it would make the Agency's work both more urgent and more difficult
- When commercial air travel was no longer possible, the Agency chartered flights for the first time in its history to get safeguards inspectors into the field
- The IAEA has delivered COVID-19 diagnostic equipment based on a nuclear-derived technique to 128 countries and territories
- There are both challenges and opportunities in international diplomacy in an online world

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Beyond the NPT

Introduction

- The international community has developed a number of mechanisms—both formal and informal—beyond the NPT and IAEA safeguards system to detect and deter the spread of nuclear weapons and other WMD
- This section provides an overview of some of those mechanisms
- The NPT, the IAEA safeguards systems, and these other efforts make up what is known collectively as the global nonproliferation regime

Nuclear-Weapon-Free Zones (NWFZs)

- NWFZs are agreements intended to provide a legally-binding framework to prohibit the use, possession, or deployment of nuclear weapons in a geographically-defined zone
- There are five NWFZ treaties in force
  - The Treaty of Tlatelolco (1967) covers Latin America and the Caribbean
  - The Treaty of Rarotonga (1985) covers the South Pacific
  - The Treaty of Bangkok (1995) covers Southeast Asia
  - The Treaty of Pelindaba (1996) covers Africa
  - The Treaty of Semipalatinsk (2006) covers Central Asia
- The Antarctic Treaty (1959), Outer Space Treaty (1967), and Seabed Treaty (1971) also deal with denuclearization of geographic regions

Multilateral Export Control Regimes

- Multilateral export control regimes are informal groups of supplier countries that seek to prevent the spread of WMD, their delivery systems, and advanced conventional weapons through national implementation of guidelines and control lists for exports
- The United States is a member of all four such regimes

Regime	Established	Members	Controls
Nuclear Suppliers Group	1974	48	Nuclear and nuclear-related dual use exports
Australia Group	1985	43	Chemicals, biological agents, and dual use manufacturing facilities/equipment
Missile Technology Control Regime	1987	35	Unmanned delivery systems capable of delivering WMD
Wassenaar Arrangement	1996	42	Conventional weapons and dual use goods and technologies

Cooperative Threat Reduction (CTR)

- Following the collapse of the Soviet Union in 1991, Senators Sam Nunn and Richard Lugar launched the CTR program to secure and dismantle WMD in former Soviet states
- Since its inception, CTR has expanded its geographic scope and adapted its toolkit to evolving threats
- CTR shifted from a response to impending chaos in the former Soviet Union to a broader program seeking to prevent states or terrorist groups from developing or acquiring WMD and their delivery systems
- CTR efforts have included, for example, elimination-type activities and capacity-building activities

Senators Sam Nunn and Richard Lugar | Washington, DC | 1991

Proliferation Security Initiative (PSI)

- Launched in 2003, PSI is a global effort that aims to stop trafficking of weapons of mass destruction, their delivery systems, and related materials to and from states and non-state actors of proliferation concern
- It is a voluntary initiative geared toward enhancing individual and collective partner nations' capabilities to take appropriate and timely actions to meet the fast-moving situations involving proliferation threats
- The 107 countries that have endorsed the PSI have committed to
  - Interdicting transfers to and from states and non-state actors of proliferation concern to the extent of their capabilities and legal authorities
  - Developing procedures to facilitate exchange of information with other countries
  - Strengthening national legal authorities to facilitate interdiction
  - Taking specific actions in support of interdiction efforts

UN Security Council Resolution (UNSCR) 1540

- The UN Security Council adopted resolution 1540 unanimously in 2004
- UNSCR 1540 affirms the proliferation of nuclear, chemical, and biological weapons and their means of delivery constitutes a threat to international peace and security
- It requires all UN Member States to take and enforce effective measures against the proliferation of such weapons and their means of delivery to non-state actors and to combat illicit use of related materials
- These measures significantly strengthen and improve coordination of international efforts to prevent terrorists and proliferation networks from gaining access to WMD

Global Initiative to Combat Nuclear Terrorism (GICNT)

- The United States and Russia jointly announced the creation of GICNT in 2006
- It is a voluntary international partnership of 89 nations and 6 international organizations that are committed to strengthening global capacity to prevent, detect, and respond to nuclear terrorism
- The GICNT works toward this goal by conducting multilateral activities that strengthen the plans, policies, procedures, and interoperability of partner nations
- All partner nations have voluntarily committed to implementing the GICNT Statement of Principles, a set of broad nuclear security goals encompassing a range of deterrence, prevention, detection, and response objectives

Nonproliferation Sanctions

- Generally, economic sanctions can be defined as coercive economic measures taken against a target to bring about a change in behavior
- The United States imposes sanctions under various legal authorities against foreign individuals, private entities, and governments that engage in proliferation activities
- For example, Executive Order (E.O.) 13382 is an authority aimed at freezing the assets of WMD proliferators and their supporters and isolating them financially
  - Designations under E.O. 13382 prohibit all transactions between the designees and any U.S. person and freeze any assets the designees may have under U.S. jurisdiction

Civil Nuclear Cooperation

- Section 123 of the U.S. Atomic Energy Act (AEA) generally requires the conclusion of a peaceful nuclear cooperation agreement for significant transfers of nuclear material or equipment from the United States
  - These are commonly referred to as “123 Agreements”
  - They establish the legal framework for significant nuclear cooperation with other countries
  - In order for a partner to enter into a 123 Agreement with the United States, that partner must adhere to a set of strong nonproliferation requirements
- Section 57.b.(2) of the AEA also allows for certain limited forms of nuclear cooperation if they have received “Part 810 authorizations”
- Nuclear Cooperation Memoranda of Understanding (NCMOUs) are a relatively new tool to help the United States develop strategic civil nuclear cooperation relationships
  - NCMOUs can facilitate early necessary steps in civil nuclear cooperation that will often precede and help lay the groundwork for a 123 Agreement or Part 810 authorization

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